

## AMENDMENTS TO THE CLAIMS

Please cancel claims 3, 4, 7, 9, and 10 without prejudice or disclaimer.

Please amend claims 1, 2, 5, 6, 8, and 11-19 as follows.

1. (Currently Amended) A block polymer compound having at least three block segments, comprising:

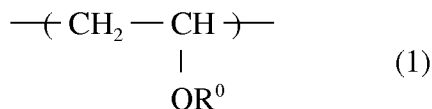
block segments A, B, and C arranged in succession,

wherein the block segment C is most ~~solvent attractive~~ hydrophilic while the block segment A is most ~~solvent repulsive~~, and hydrophobic,

the block segment C has an ionic group or an acidic group, and

the block segment C is a repeating unit represented by the following general formula

(1):



wherein R<sup>0</sup> represents -X-(COOH)<sub>r</sub> or -X-(COO-M)<sub>r</sub>; X represents a linear, branched or cyclic alkylene group with 1 to 20 carbon atoms, -(CH(R<sup>5</sup>)-CH(R<sup>6</sup>)-O)<sub>p</sub>-(CH<sub>2</sub>)<sub>m</sub>-CH<sub>3</sub>-,

-(CH<sub>2</sub>)<sub>m</sub>-(O)<sub>n</sub>-(CH<sub>2</sub>)<sub>q</sub>-CH<sub>3</sub>- or a structure in which at least one of methylene groups therein is replaced by a carbonyl group or an aromatic ring structure; r represents 1 or 2; p represents an integer from 1 to 18; m represents an integer from 0 to 35; n represents 1 or 0; q represents an integer from 0 to 17; M represents a monovalent or polyvalent cation; and R<sup>5</sup> and R<sup>6</sup>, which may be the same or different, each independently represent an alkyl group.

~~at least either one of said block segments has an ionic group or an acidic group.~~

2. (Currently Amended) The block polymer compound according to claim 1, wherein at least either one of ~~said~~ the block segments A and B is a stimulus-responsive block segment.

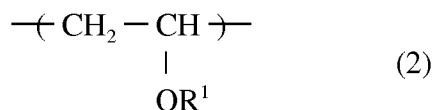
3-4. (Cancelled)

5. (Currently Amended) The block polymer compound according to claim 1, wherein ~~said~~ the block polymer is amphiphilic.

6. (Currently Amended) The block polymer compound according to claim 1, wherein ~~said~~ the block polymer includes a polyvinyl ether structure as a repeating unit structure.

7. (Cancelled)

8. (Currently Amended) The block polymer compound according to claim 1, wherein at least either one of ~~said~~ the block segments ~~A, B and C~~ A and B is a repeating unit represented by the following general formula (2):



wherein R<sup>1</sup> is a group selected from the group consisting of a linear, branched or cyclic alkyl group with 1 to 18 carbon atoms, -Ph, -Pyr, -Ph-Ph, -Ph-Pyr, -(CH(R<sup>5</sup>)-CH(R<sup>6</sup>)-O)<sub>p</sub>-R<sup>7</sup> and

$-(\text{CH}_2)_m-(\text{O})_n-\text{R}^7$ , in which a hydrogen atom in an aromatic ring may be replaced by a linear or branched alkyl group with 1 to 4 carbon atoms and a carbon atom in an aromatic ring may be replaced by a nitrogen atom;

p represents an integer from 1 to 18; m represents an integer from 1 to 36; n represents 0 or 1;

$\text{R}^5$  and  $\text{R}^6$  each independently represent a hydrogen atom or  $-\text{CH}_3$ ;

$\text{R}^7$  represents a hydrogen atom, a linear, branched or cyclic alkyl group with 1 to 18 carbon atoms, -Ph, -Pyr, -Ph-Ph, -Ph-Pyr, -CHO,  $-\text{CH}_2\text{CHO}$ ,  $-\text{CO}-\text{CH}=\text{CH}_2$ ,  $-\text{CO}-\text{C}(\text{CH}_3)=\text{CH}_2$ , or  $-\text{CH}_2\text{COOR}^8$ , in which, in case  $\text{R}^7$  is other than a hydrogen atom, a hydrogen atom bonded to a carbon atom in  $\text{R}^7$  may be replaced by a linear or branched alkyl group with 1 to 4 carbon atoms, -F, -Cl or -Br while a carbon atom in an aromatic ring may be replaced by a nitrogen atom;  $\text{R}^8$  represents a hydrogen atom or an alkyl group with 1 to 5 carbon atoms; Ph represents a phenyl group; and Pyr represents a pyridyl group.

9.-10. (Cancelled)

11. (Currently Amended) A polymer-containing composition comprising a block polymer compound, a solvent or a dispersion medium, and a functional material,

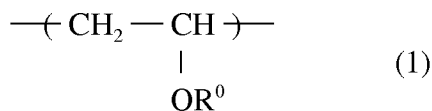
wherein ~~said~~ the block polymer compound comprises block segments A, B, and C arranged in succession,

~~said~~ the block segment C is most ~~solvent attractive~~ hydrophilic while ~~said~~ the block segment A is most ~~solvent repulsive~~ hydrophobic, and

the block segment C has an ionic group or an acidic group, and

the block segment C is a repeating unit represented by the following general formula

(1):




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wherein R<sup>0</sup> represents -X-(COOH)<sub>r</sub> or -X-(COO-M)<sub>r</sub>; X represents a linear, branched or cyclic alkylene group with 1 to 20 carbon atoms, -(CH(R<sup>5</sup>)-CH(R<sup>6</sup>)-O)<sub>p</sub>-(CH<sub>2</sub>)<sub>m</sub>-CH<sub>3</sub>-<sub>r</sub>, -(CH<sub>2</sub>)<sub>m</sub>-(O)<sub>n</sub>-(CH<sub>2</sub>)<sub>q</sub>-CH<sub>3</sub>-<sub>r</sub> or a structure in which at least one of methylene groups therein is replaced by a carbonyl group or an aromatic ring structure; r represents 1 or 2; p represents an integer from 1 to 18; m represents an integer from 0 to 35; n represents 1 or 0; q represents an integer from 0 to 17; M represents a monovalent or polyvalent cation; and R<sup>5</sup> and R<sup>6</sup>, which may be the same or different, each independently represent an alkyl group.

~~at least either one of said block segments has an ionic group or an acidic group.~~

12. (Currently Amended) The polymer-containing composition according to claim 11, wherein ~~said~~ the functional material is included in ~~said~~ the block polymer compound.

13. (Currently Amended) The polymer-containing composition according to claim 11, wherein ~~said~~ the functional material is a colorant.

14. (Currently Amended) A method of increasing the viscosity of a polymer-containing composition which comprises:

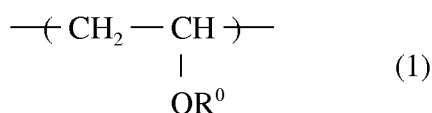
a block polymer compound comprising block segments A, B, and C arranged in succession, a solvent or a dispersion medium, and a functional material, wherein

the block segment C is most ~~solvent-attractive~~ hydrophilic while the block segment A is most ~~solvent-repulsive~~ hydrophobic, and

the block segment C has an ionic group or an acidic group, and

the block segment C is a repeating unit represented by the following general formula

(1):



wherein R<sup>0</sup> represents -X-(COOH)<sub>r</sub> or -X-(COO-M)<sub>r</sub>; X represents a linear, branched or cyclic

alkylene group with 1 to 20 carbon atoms, -(CH(R<sup>5</sup>)-CH(R<sup>6</sup>)-O)<sub>p</sub>-(CH<sub>2</sub>)<sub>m</sub>-CH<sub>3</sub>-<sub>r</sub>,

-(CH<sub>2</sub>)<sub>m</sub>-(O)<sub>n</sub>-(CH<sub>2</sub>)<sub>q</sub>-CH<sub>3</sub>-<sub>r</sub> or a structure in which at least one of methylene groups therein is

replaced by a carbonyl group or an aromatic ring structure; r represents 1 or 2; p represents an

integer from 1 to 18; m represents an integer from 0 to 35; n represents 1 or 0; q represents an

integer from 0 to 17; M represents a monovalent or polyvalent cation; and R<sup>5</sup> and R<sup>6</sup>, which may

be the same or different, each independently represent an alkyl group.

~~at least either one of said block segments has an ionic group or an acidic group,~~

the method comprising a step of bringing ~~said~~ the composition in contact with

hydrogen ions or metal cations to increase the viscosity of ~~said~~ the composition.

15. (Currently Amended) The viscosity increasing method according to claim 14, wherein a stimulus is given to ~~said~~ the composition, thereby causing a phase change of ~~said~~ the block segment B.

16. (Currently Amended) An image forming method comprising a step of applying an ink onto a recording medium to conduct recording, wherein

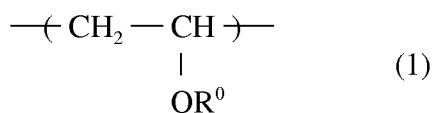
~~said~~ the ink is a polymer-containing composition including a block polymer compound comprising block segments A, B, and C arranged in succession, a solvent or a dispersion medium, and a functional material,

the block segment C is most ~~solvent-attractive~~ hydrophilic while the block segment A is most ~~solvent-repulsive~~ hydrophobic, and

the block segment C has an ionic group or an acidic group, and

the block segment C is a repeating unit represented by the following general formula

(1):



wherein R<sup>0</sup> represents -X-(COOH)<sub>r</sub> or -X-(COO-M)<sub>r</sub>; X represents a linear, branched or cyclic alkylene group with 1 to 20 carbon atoms, -(CH(R<sup>5</sup>)-CH(R<sup>6</sup>)-O)<sub>p</sub>-(CH<sub>2</sub>)<sub>m</sub>-CH<sub>3</sub>-  
-(CH<sub>2</sub>)<sub>m</sub>-(O)<sub>n</sub>-(CH<sub>2</sub>)<sub>q</sub>-CH<sub>3</sub>- or a structure in which at least one of methylene groups therein is replaced by a carbonyl group or an aromatic ring structure; r represents 1 or 2; p represents an integer from 1 to 18; m represents an integer from 0 to 35; n represents 1 or 0; q represents an

integer from 0 to 17; M represents a monovalent or polyvalent cation; and R<sup>5</sup> and R<sup>6</sup>, which may be the same or different, each independently represent an alkyl group.

~~at least either one of said block segments has an ionic group or an acidic group.~~

17. (Currently Amended) The image forming method according to claim 16, wherein an energy is applied to ~~said~~ the ink to eject ~~said~~ the ink onto ~~said~~ the recording medium.

18. (Currently Amended) The image forming method according to claim 16, further comprising a step of bringing ~~said~~ the composition in contact with hydrogen ions or metal cations to increase the viscosity of ~~said~~ the composition.

19. (Currently Amended) An image forming apparatus for conducting recording by applying an ink onto a recording medium, wherein

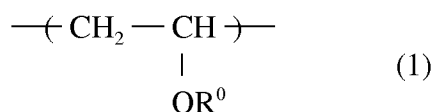
~~said~~ the ink is a polymer-containing composition including a block polymer compound comprising block segments A, B, and C arranged in succession, a solvent or a dispersion medium, and a functional material,

the block segment C is most ~~solvent-attractive~~ hydrophilic while the block segment A is most ~~solvent-repulsive~~ hydrophobic, and

the block segment C has an ionic group or an acidic group, and

the block segment C is a repeating unit represented by the following general formula

(1):



wherein R<sup>0</sup> represents -X-(COOH)<sub>r</sub> or -X-(COO-M)<sub>r</sub>; X represents a linear, branched or cyclic alkylene group with 1 to 20 carbon atoms, -(CH(R<sup>5</sup>)-CH(R<sup>6</sup>)-O)<sub>p</sub>-(CH<sub>2</sub>)<sub>m</sub>-CH<sub>3-r</sub>-, -(CH<sub>2</sub>)<sub>m</sub>-(O)<sub>n</sub>-(CH<sub>2</sub>)<sub>q</sub>-CH<sub>3-r</sub>- or a structure in which at least one of methylene groups therein is replaced by a carbonyl group or an aromatic ring structure; r represents 1 or 2; p represents an integer from 1 to 18; m represents an integer from 0 to 35; n represents 1 or 0; q represents an integer from 0 to 17; M represents a monovalent or polyvalent cation; and R<sup>5</sup> and R<sup>6</sup>, which may be the same or different, each independently represent an alkyl group.

~~at least either one of said block segments has an ionic group or an acidic group.~~